



800 MHz Rebanding: What's it All about?

Virginia Chapter
NPSPAC Region 42

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Richmond, VA





800 MHz Rebanding
The Reconfiguration

The 800 MHz rebanding process involves:

- **A Physical Rebanding Process:**
  - **Mandatory shifting of licensees from the first 120 800 MHz channels to higher frequencies,**
  - **Mandatory shifting to lower frequencies of all NPSPAC 800 MHz channels used today,**
  - **Retuning or replacing all radio systems and subscriber units in order that they utilize the new channel allocations; and**
- **A Commercial/Legal Process to determine the costs of rebanding to be borne by Nextel.**

CURRENT CHANNEL PLAN

806 MOVE 809 — 809.7375 STAY — 815 — 816 — 817 — 821 MOVE 824

700 MHz Public Safety Band	General Category 150 Channels 7.5 MHz	Interleaved Spectrum 80 SMR, 50 Business, 50 Industrial 70 Public Safety 250 Channel 12.5 MHz	ESMR Block 200 Channels 10 MHz	NPSPAC Public Safety 230 Ch. 6 MHz	Cellular

800 MHz Band Plan Comparison

700 MHz Public Safety Band	NPSPAC Public Safety 230 Ch. 6 MHz	Public Safety Hi Site SMR, Business, Industrial 280 Channel 14 MHz	Expansion Band*	Guard Band**	Cellular Like ESMR Block 280 Channels 14 MHz	Cellular

851 — 854 — 854.7375 — 860 — 861 — 862 — 866 — 869

FCC'S FINAL PLAN

*No public safety system will be required to remain in or relocate to the Expansion band, although they may do so if they choose

**No public safety or CII licensee may be involuntarily relocated to occupy the Guard Band.





800 MHz Rebanding
The Deal in Theory

- The Transition Administrator (TA) allocates new channels.
- The licensees reconfigure their radio systems.
- Nextel pays the costs of reconfiguration.
- Nextel gives up some 800 MHz spectrum.
- The federal government receives money from Nextel if rebanding costs are not too high.
- Physical rebanding proceeds without a hitch.
- All concerned live happily ever after.

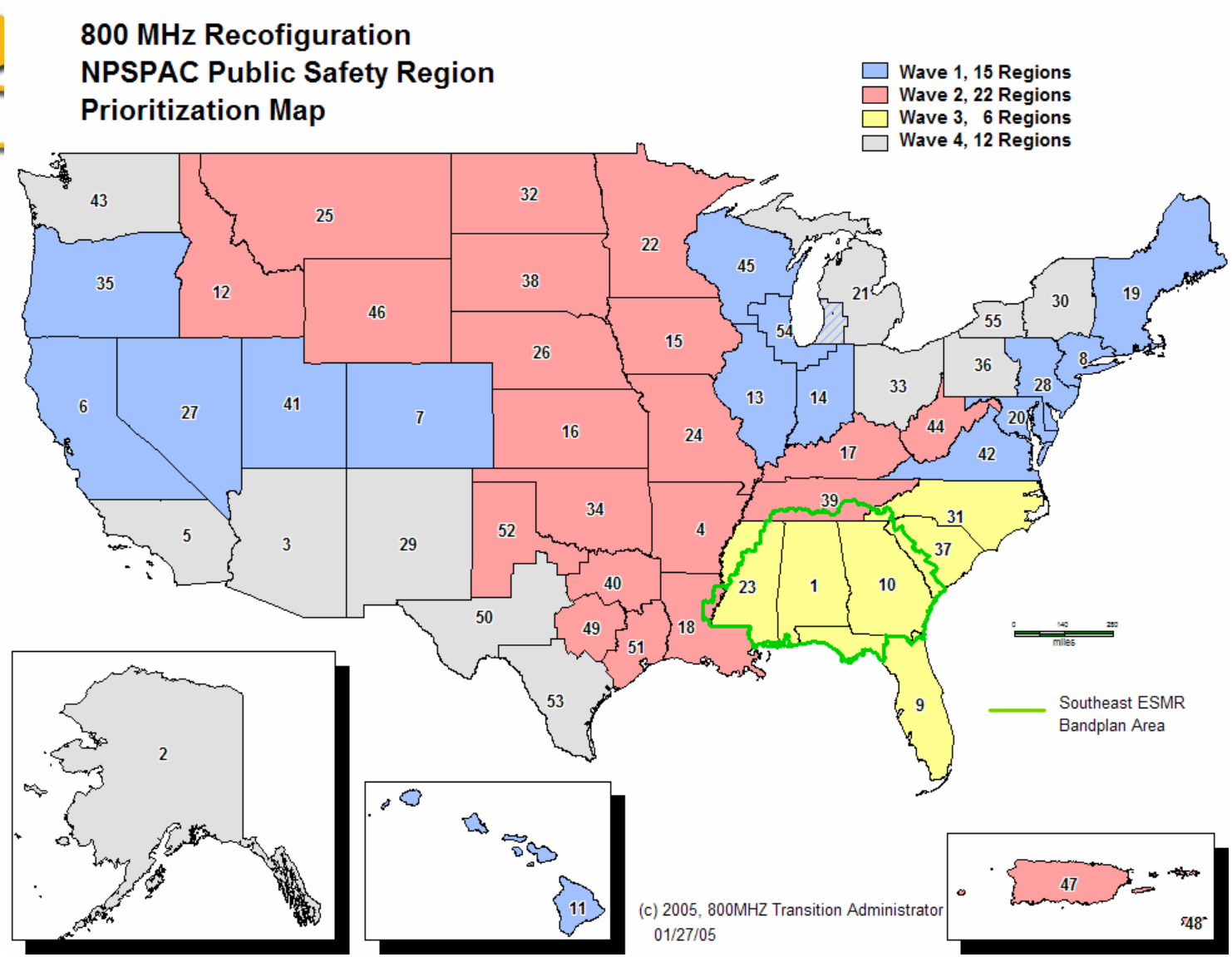




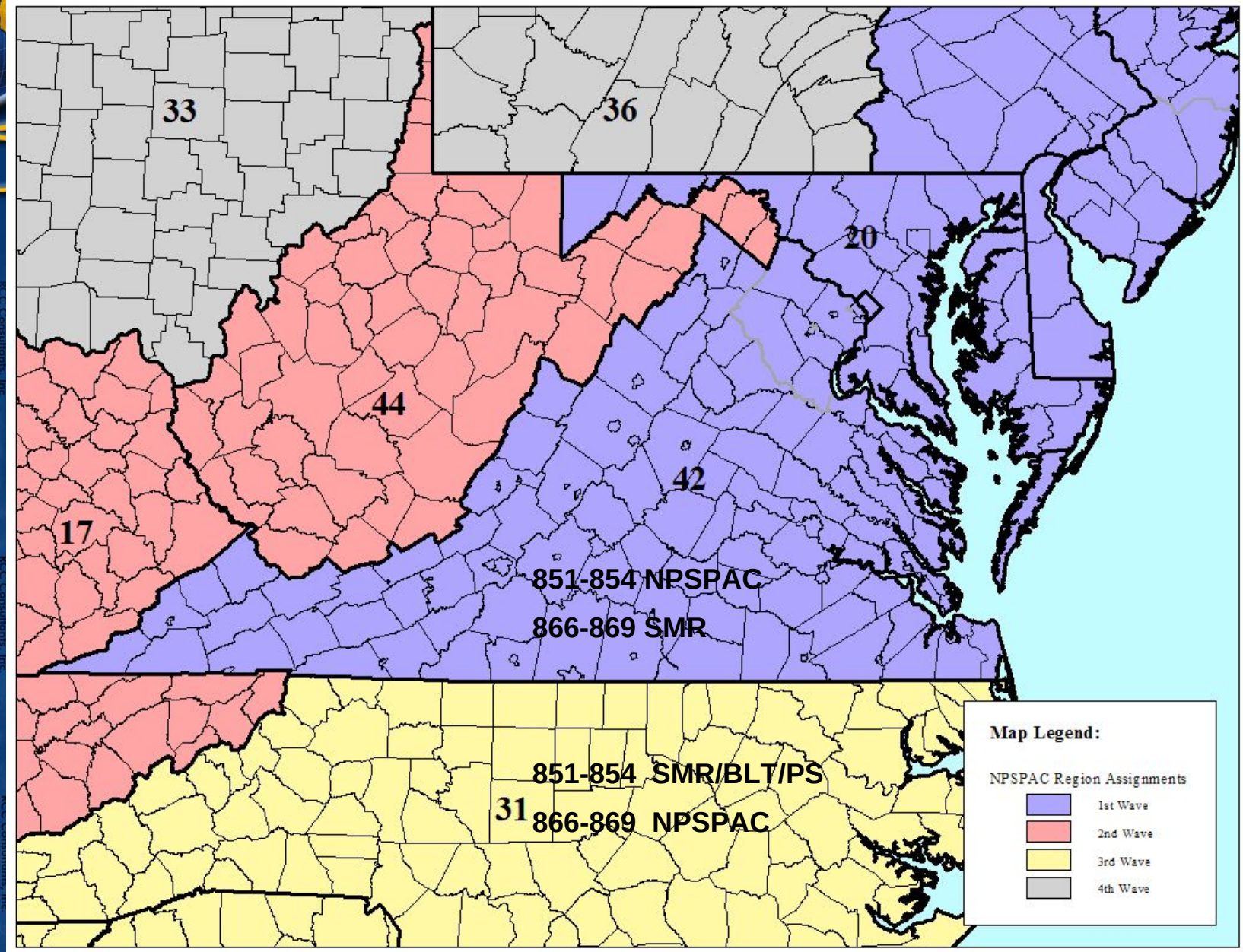
800 MHz Rebanding
The Deal in Reality

- The allocation of new channels nationwide will likely create new problems of a temporary or permanent nature (new interference issues, loss of interoperability, effect on VRS).
- Complex radio systems (particularly simulcast systems) cannot easily be rebanded without unacceptable risks of interrupted operations and system performance (availability, capacity, and functionality).
- Certain Public Safety licensees are significantly more sensitive than other rebanding participants to the dangers of reconfiguring mission-critical radio systems while they are in-use supporting emergency services.
- The WAVE concept will cause concerns along wave boundaries.
  - Incompatible frequency use
  - Loss of interoperability
  - Interference issues due to non-coordinated operations

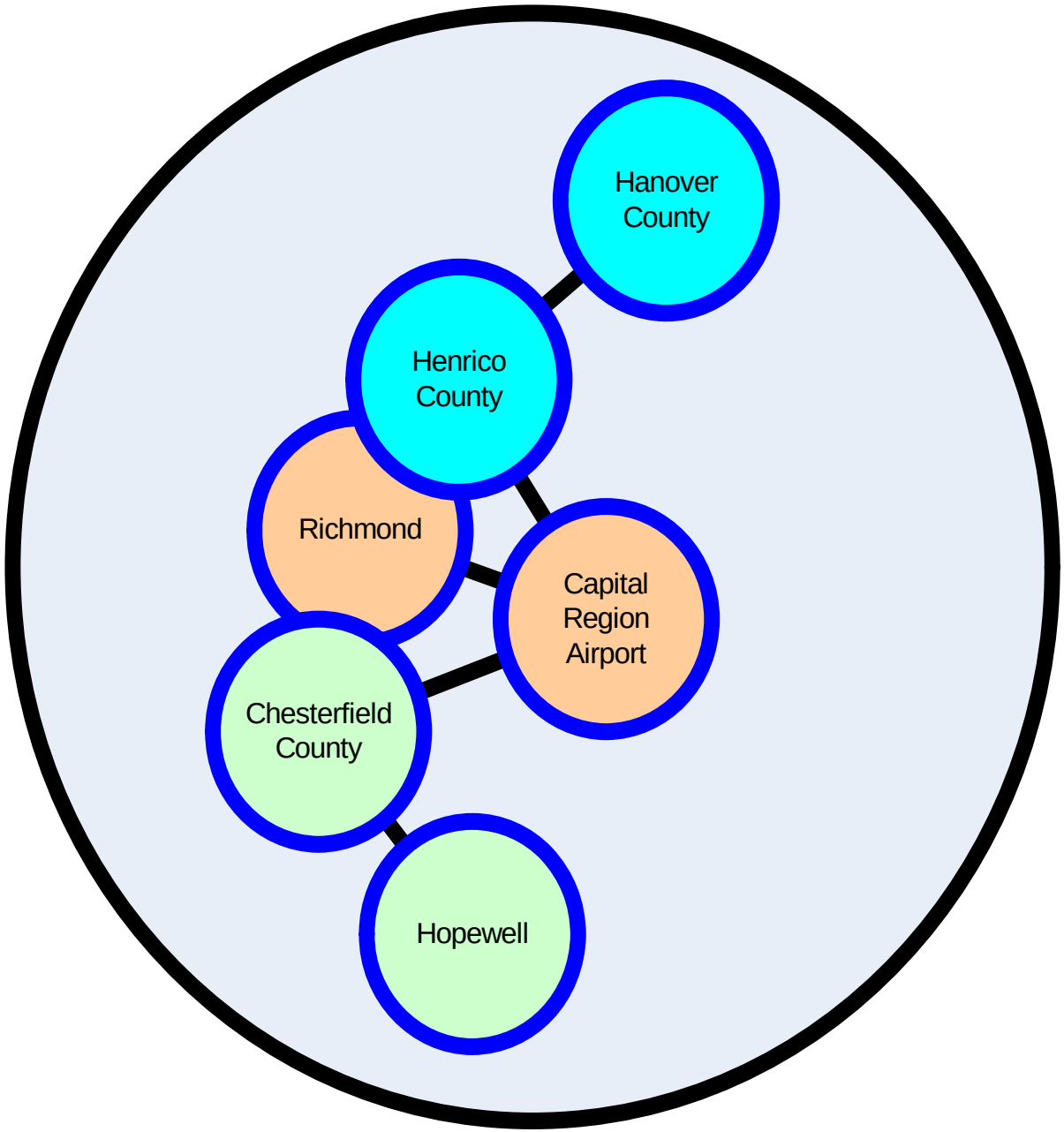
Transition Administrator Proposed "Waves"



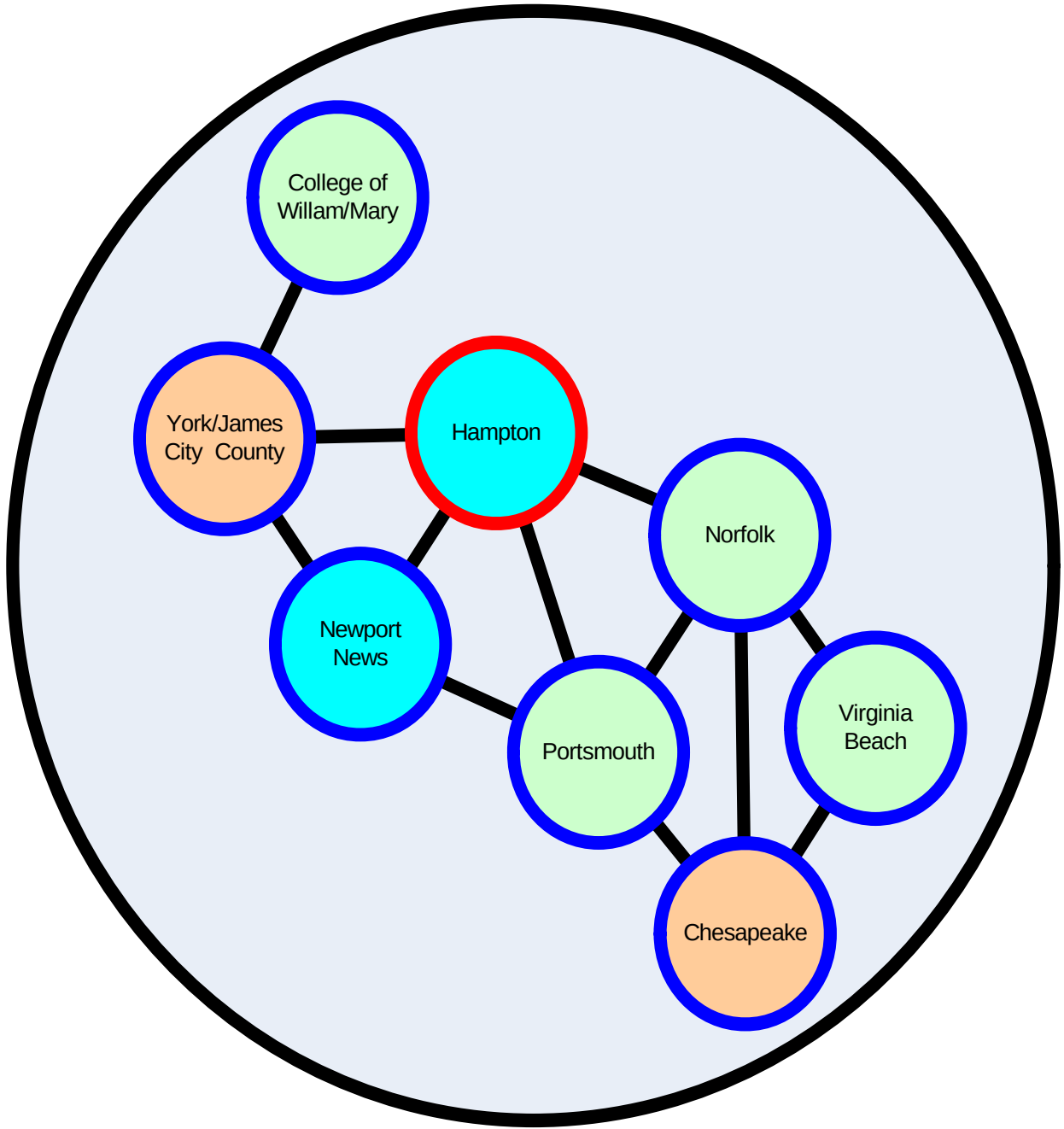
Intricacies of Rebanding – Some Concerns



VA Capital Region



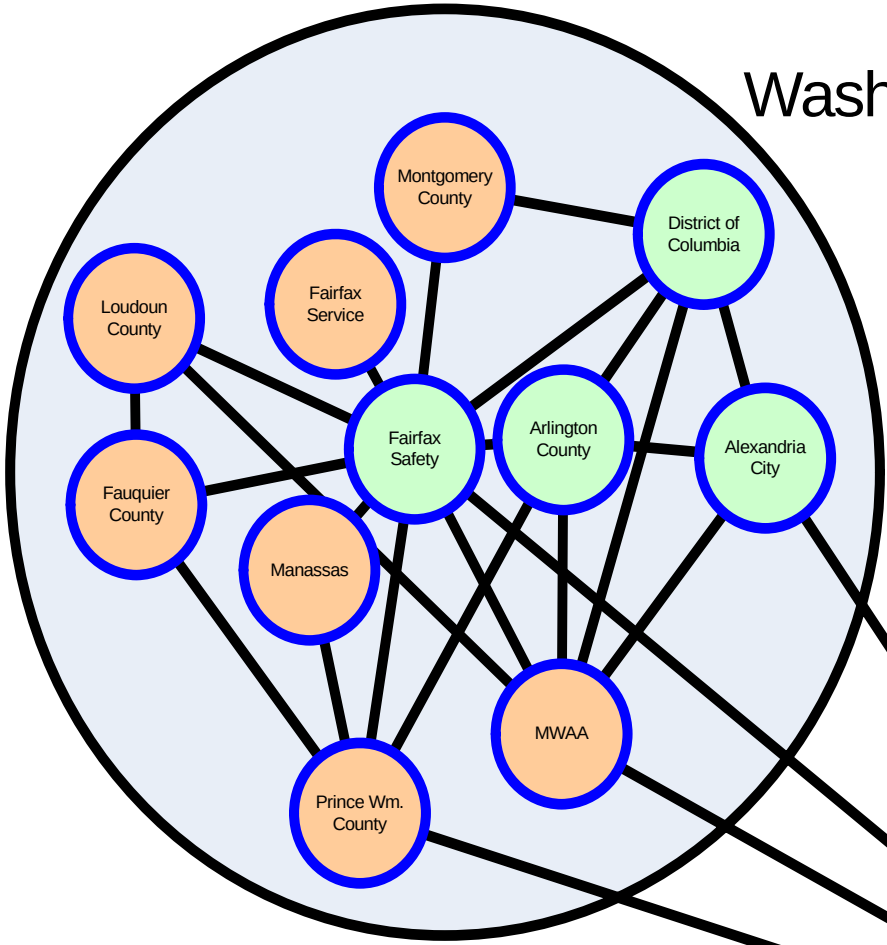
Tidewater VA

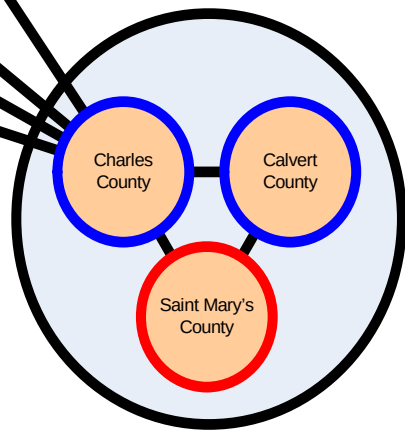


Washington Metro/NOVA







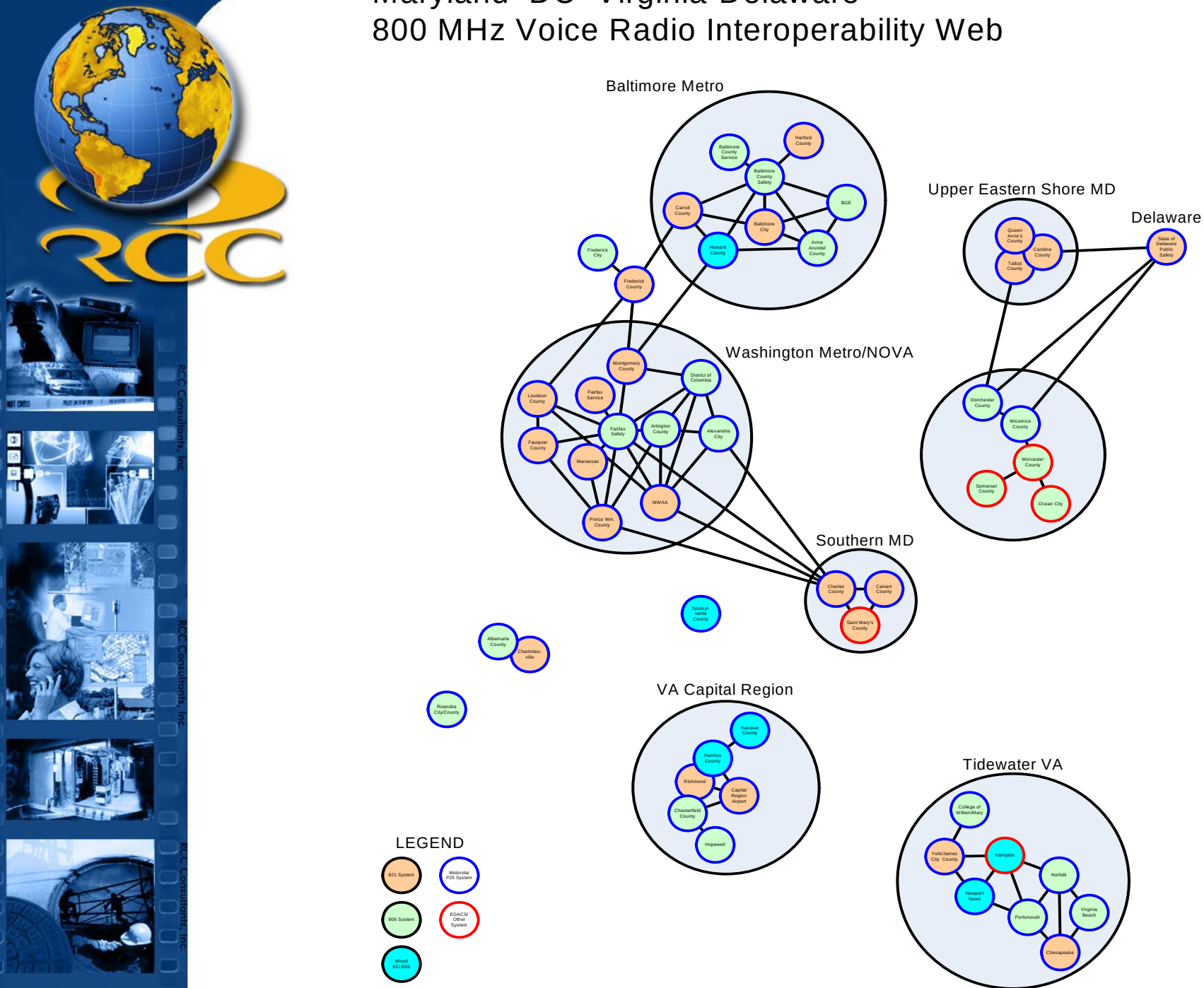


Spotsyl-vania County

Albemarle County

Charlottes-ville

Maryland–DC–Virginia-Delaware
800 MHz Voice Radio Interoperability Web







800 MHz Rebanding
The Bottom Line

The 800 MHz rebanding process:

- is complex and involuntary;
- involves an administrative process to allocate new channels to replace old ones, although no allocation scheme can be free of problems;
- involves a challenging engineering process to address the physical dimension of rebanding and to manage the risks to system operations of rebanding; and
- involves a seriously contentious commercial/legal proceeding between licensees and Nextel to determine how the costs of the rebanding process are borne.





800 MHz Rebanding
The Engineering Challenges

The 800 MHz rebanding process:

- **involves changing the channels on which mission-critical radio systems operate while they are operating**
- **involves maintaining critical interoperability with neighboring systems**
- **requires creating a retreat path or safety net to enable return to the existing system if the rebanding process goes awry; and**
- **requires making sure that the rebanded system is comparable to the unrebanded system.**





800 MHz Rebanding
The Commercial/Legal Challenges

The 800 MHz rebanding process established by the FCC:

- Is governed by rules that are general in nature, not yet developed by application in particular cases, and sometimes in conflict with one another
- does not appoint any party to protect the interests of the licensees (other than the licensees themselves)
- is fraught with conflicts among the interests of participants; and
- requires licensees to fight for their ‘rights’ at all stages of the process.





800 MHz Rebanding
Motherhood, Apple Pie, & Public Safety

- Public Safety agencies traditionally view their mission as being cooperative with the Federal Government(FCC) and regulatory processes

- It is not unpatriotic to ask:
  - How will rebanding affect my daily operation?
  - Will I be fully reimbursed for the expense of rebanding?
  - How is my agency protected from liability?

800 MHz Rebanding
It is not unpatriotic to ask:





- How will rebanding affect my daily operation?
  - Will there be system degradation during rebanding?
  - Will there be reduced system capacity during rebanding?
  - How will the logistics of mobile and portable reconfiguration be processed?





800 MHz Rebanding
It is not unpatriotic to ask:

- **Will I be fully reimbursed for the expense of rebanding?**
  - **Is additional staffing required to manage rebanding?**
  - **Will time spent by all staff on the rebanding issues be compensated?**
  - **Will legal and technical consultation be covered under reimbursement?**
  - **Will overtime expenses be covered?**
    - ✓ **How does this affect pension plans?**





800 MHz Rebanding
It is not unpatriotic to ask:

- How is my agency protected from liability?
  - What if rebanding goes awry – Is there a fallback system?
  - What if rebanding coincides with a major event?
  - What if rebanding causes a communications failure
    - ✓ Injury or death attributable to loss of communication
    - ✓ Who is legally responsible?





Rebanding Strategy: The Rights of Licensees

- The right to comparable facilities (the “Comparability Protection”),
- The right to avoid more than minimal disruption of operations (the “Disruption Protection”),
- The right to continuity of service (the “Continuity Protection”),
- The right to a redundant system, if necessary to avoid serious disruption of system operations (the “Redundancy Protection”),
- The right to freedom from interference (the “Interference Protection”), and
- The right to have the reasonable costs of rebanding borne by Nextel (the “Cost Protection”).





800 MHz Rebanding
Conclusion

- The Rebanding Process seems to be overly simplified by the FCC, Transition Administrator, and Nextel
  - This is the most significant event ever in the history of land mobile radio
  - Public safety systems will be modified on-the-fly while still expected to provide mission critical services.
- WAVE 1 tackles the largest concentration of 800 MHz licensees in the country
  - Problems should be expected.
  - Estimated 70% of public safety mobiles are operating in wave 1
- Questions?